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NEPTUNE.

1898.	R. A. H. M.	Declination. ° ′	Rises. H. M.	Transits. H. M.	Sets. H. M.
Feb. 1.	5 17	+ 21 42	1 10 P.M.	8 28 P.M.	3 46 A.M.
11.	5 16	+ 21 42	12 30	7 48	3 6
21.	5 16	+ 21 42	11 51 A.M.	7 9	2 27
Mar. 3.	5 16	+ 21 43	11 11	6 29	1 47

ECLIPSES OF *JUPITER'S* SATELLITES, P. S. T.

(Off left-hand limb, as seen in an inverting telescope.)

		H. M.			H. M.
II, D,	Feb. 3.	9 56 P. M.	III, R,	Feb. 19.	8 42 P. M.
I, D,	4.	1 41 A. M.	I, D,	19.	11 56 P. M.
I, D,	5.	8 10 P. M.	I, D,	21.	6 24 P. M.
II, D,	11.	12 32 A. M.	II, D,	25.	5 44 A. M.
I, D,	11.	3 34 A. M.	III, D,	26.	9 58 P. M.
I, D,	12.	10 3 P. M.	I, D,	27.	1 49 A. M.
II, D,	18.	3 8 A. M.	II, D,	28.	7 2 P. M.
I, D,	18.	5 28 A. M.	I, D,	28.	8 17 P. M.

MINIMA OF *ALGOL*, P. S. T.

	H. M.		H. M.
Feb. 3.	8 41 P. M.	Feb. 18.	4 45 A. M.
6.	5 30 P. M.	21.	1 34 A. M.
9.	2 19 P. M.	23.	10 23 P. M.
12.	11 8 A. M.	26.	7 12 P. M.
15.	7 56 A. M.		

COMET *b*, 1897.

BY C. D. PERRINE.

This comet, the second of the year, was discovered by the writer on the evening of October 16th. It was then in the constellation *Camelopardalis*, in R. A. $3^h\ 36^m\ 7^s.58$, Decl. + 66° 46′ 43″.6, at $17^h\ 45^m\ 22^s$, Greenwich M. T. It was then moving north at the rate of about one and a half degrees per day, and west 6^m. On October 29th it passed within about eight degrees of the pole, and is now moving southward.

The following elements have been deduced from the Mt. Hamilton observations of October 16th, 24th, and 31st:—

$$T = 1897 \text{ Dec. } 8.84714$$

$$\left.\begin{aligned} \omega &= 66^\circ\ 5'\ 42''.2 \\ \Omega &= 32\ \ 4\ \ 4\ .9 \\ i &= 69\ 37\ 40\ .9 \end{aligned}\right\} \text{Ecliptic and mean equinox of 1897.0}$$

$$\log q = 0.132056.$$

The residuals for the middle place being:—

Observed — computed, $\Delta\lambda' \cos \beta' \quad + 4''.1$
$\Delta\beta' \quad + 4\ .3.$

From these elements it will be seen that the comet will make its closest approach to the Sun on December 8th, at a distance of one hundred and twenty-five million miles. Owing to the positions of the Earth and comet in their respective orbits, the comet slowly approached the Earth for about two weeks after its discovery, until it was only about seventy-five million miles away. The distance is now increasing slowly.

At discovery the comet had a clearly-defined stellar nucleus, resembling a twelfth-magnitude star. This nucleus was in and very near the north following end of a well-marked, elongated condensation. Continuing in the same direction as this condensation, *i. e.* s. p., was a narrow streamer of a tail, which could be traced for a distance of 3′ from the head. Around the whole could be seen a faint nebulosity for a distance of probably 1′. In a week's time the star-like nucleus had disappeared, and even the condensation about it had lost much of its light. The changes continued, until by October 31st it was not an easy object to observe with the 12-inch refractor, owing to its blurred appearance — there being no well-marked condensation upon which to set the micrometer wires. At discovery it was quite bright, even in the moonlight, giving as much light as an eighth-magnitude star. On October 31st it was carefully examined with the 36-inch telescope, but no indications of a nucleus were to be seen; there was a long streak of nebulosity in the head, which dwindled into a fainter, streamer-like tail. The size of the comet had changed but little, but instead of being brighter, as it should be, on the assumption that a comet's light is principally reflected sunlight, it was actually very much fainter. Comets frequently show increased activity as they approach the Sun, the nucleus (should the comet show one) becoming much brighter, and in some cases even developing one; but here is a case where the reverse has occurred — the comet losing all signs of the one it had, and losing much of its light, with no sensible change of size. So great has been the loss of light, that it was not found on November 7th (in the moonlight), although the sky for some distance around its place was carefully examined with the 36-inch telescope, using the lowest power available — 270. The orbit of this comet does not resemble that of any known one.

LICK OBSERVATORY, UNIVERSITY OF CALIFORNIA,
November 8, 1897.